

IN THE CLAIMS:

Please cancel Claims 2 to 7, 47 to 52, 54 to 71 and 92 to 96 without prejudice or disclaimer of subject matter. Please amend Claims 1, 8, 44 to 46 and 89 to 91, and add Claim 97, to read as follows. Note that all claims currently pending in this application, including those presently being amended, have been reproduced below.

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1. ~~(Currently Amended)~~ Computer-executable process steps to provide an application programming interface (API), the application programming interface providing a common software interface between an application program and a plurality plural different types of color measuring devices including a first color measuring device and a second color measuring device each having at least one color measuring sensor, wherein the first color measuring device and the second color measuring device are different types of color measuring devices, the computer-executable process steps comprising plural functions for operating any of the plurality plural different types of color measuring devices, wherein in order to complete an operation performed by at least one of the plural functions, the function that performs the operation must be called a number of times which is different for at least the two different types of color measuring devices, and wherein for a color measuring device that is being operated, the API provides the application program with flow control data of the number of times that the function must be called.

2 to 7. (Cancelled)

8. ~~(Currently Amended) Computer-executable process steps to provide~~

a software an application programming interface (API), the API providing a common software interface between an application program and plural different types of color measuring devices each having at least one color measuring sensor, the computer-executable process steps comprising plural functions for operating any of the plural different types of color measuring devices, the plural functions comprising:

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a calibrate-position function to calibrate a relative position of a recording medium with respect to any of the plural different types of color measuring devices;

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a calibrate-sensor function to calibrate any of the color measuring sensors of any of the plural different types of color measuring devices;

a move-to-patch function to relatively position any of the color measuring sensors and a color patch for any of the plural different types of color measuring devices, the move-to-patch function being provided with a logical color patch number by the application program; and

a make-measurement function to make a color measurement of the patch at which any of the color measuring sensors is relatively positioned, the make-measurement function providing the application program with a color measurement value for the color patch;

wherein in order to complete an operation performed by at least one of the plural functions, the function that performs the operation must be called a number of times which is different for at least two different types of color measuring devices, and wherein for a color measuring device that is being operated, the API provides the application program with flow control data of the number of times that the function must be called.

9. (Original) Computer-executable process steps according to Claim 8,  
wherein the calibrate-position function provides the application program with at least one  
display value that is to be displayed so as to instruct a user to position the recording  
medium or to position any of the color measuring sensors.

10. (Original) Computer-executable process steps according to Claim 8,  
wherein the calibrate-sensor function provides the application program with at least one  
display value that is to be displayed so as to instruct the user in calibrating the sensor.

11. (Original) Computer-executable process steps according to Claim 8,  
wherein the move-to-patch function causes the color measuring device to move any of the  
color measuring sensors so as to relatively position any of the color measuring sensors and  
the color patch.

12. (Original) Computer-executable process steps according to Claim 8,  
wherein the move-to-patch function provides the application program with at least one  
display value that is to be displayed so as to instruct the user to manipulate any of the color  
measuring devices so as to relatively position any of the color measuring sensors and the  
color patch.

13. (Original) Computer-executable process steps according to Claim 8,  
wherein the move-to-patch function causes the color measuring device to move the

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OC1 → recording medium so as to relatively position any of the color measuring sensors and the color patch.

B 14. (Original) Computer-executable process steps according to Claim 8, wherein the move-to-patch function provides the application program with at least one display value that is to be displayed so as to instruct the user to move the recording medium so as to relatively position any of the color measuring sensors and the color patch.

15. (Original) Computer-executable process steps according to Claim 8, wherein the move-to-patch function provides the application program with a recalibrate value in a case that the relative position of the recording medium needs to be recalibrated.

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OC1 → 16. (Original) Computer-executable process steps according to Claim 8, wherein the make-measurement function provides the application program with at least one display value that is to be displayed so as to instruct the user in making the color measurement.

17. (Original) Computer-executable process steps according to Claim 8, wherein the make-measurement function further provides the application program with a recalibrate value in a case that any of the color measuring sensors needs to be recalibrated.

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BC1 →  
~~18. (Original) Computer-executable process steps according to Claim 8,~~

wherein the flow control data is provided by the function which must be called the number  
~~of times in order to complete the operation.~~

19. (Original) Computer-executable process steps according to Claim

18, wherein the flow control data is provided in the form of a call-again value.

20. (Original) Computer-executable process steps according to Claim

18, wherein the flow control data is provided in the form of a numerical value.

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BC1 →  
~~21. (Original) Computer-executable process steps according to Claim 8,~~

wherein the plural functions further comprise a get-device-capabilities function to provide  
~~the application program with the flow control data.~~

22. (Original) Computer-executable process steps according to Claim 8,

wherein the plural functions in the API call device driver functions for the plural different  
types of color measuring devices.

23. (Original) Computer-executable process steps according to Claim 8,

wherein the computer-executable process steps are stored in a dynamically linkable library.

24. (Original) Computer-executable process steps according to Claim 8,  
wherein the plural different types of color measuring devices include XY tables and hand-held patch readers.

25. (Original) Computer-executable process steps according to Claim 8,  
wherein the plural different types of color measuring devices include spectrometers and densitometers.

26. (Original) Computer-executable process steps according to Claim 8,  
wherein the application program is a color calibration program.

27. (Original) Computer-executable process steps to provide an application programming interface (API), the API providing a common interface between an application program and plural different types of color measuring devices each having at least one color measuring sensor, the computer-executable process steps comprising plural functions for operating any of the plural different types of color measuring devices, the plural functions comprising:

a calibrate-position function to calibrate a relative position of a recording medium with respect to any of the plural different types of color measuring devices, the calibrate-position function providing the application program with a position-calibration display value that is to be displayed so as to instruct a user to position the recording medium or to position any of the color measuring sensors;

~~a calibrate-sensor function to calibrate any of the color measuring sensors of~~

any of the plural different types of color measuring devices, the calibrate-sensor function providing the application program with a sensor-calibration display value to the application program, the sensor-calibration display value to be displayed so as to instruct the user in calibrating any of the color measuring sensors;

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a move-to-patch function to relatively position any of the color measuring sensors and a color patch for any of the plural different types of color measuring devices, the move-to-patch function being provided with a logical color patch number by the application program, providing the application program with a call-again value in a case that the move-to-patch function needs to be called multiple times to complete the relative positioning of the color measuring sensors and has not yet been called the multiple times, and providing the application program with a move-to-patch display value that is to be displayed so as to instruct the user in positioning any of the color measuring sensors; and

a make-measurement function to make a color measurement of the patch at which any of the color measuring sensors is relatively positioned, the make-measurement function providing the application program with a color measurement value for the color patch, providing the application program with a call-again value in a case that the make-measurement function needs to be called multiple times to complete making the color measurement of the color patch and has not yet been called the multiple times, and providing the application program with a measurement display value that is to be displayed so as to instruct the user in making the color measurement.

~~28. (Original) Computer-executable process steps according to Claim~~

27, further comprising a get-device-capabilities function to provide the application program with a number of times that the calibrate-position function needs to be called so as to calibrate the relative position of the recording medium and to provide the application program with a number of times that the calibrate-sensor function needs to be called so as to calibrate any of the color measuring sensors.

29. (Original) Computer-executable process steps according to Claim

27, wherein the calibrate-position function further provides the application program with a number of times that the calibrate-position function needs to be called so as to calibrate the relative position of the recording medium.

30. (Original) Computer-executable process steps according to Claim

27, wherein the calibrate-position function further provides the application program with a call-again value in a case that the calibrate-position function needs to be called multiple times so as to calibrate the relative position of the recording medium and has not yet been called the multiple times.

31. (Original) Computer-executable process steps according to Claim

27, wherein the calibrate-sensor function further provides the application program with a number of times that the calibrate-sensor function needs to be called so as to calibrate any of the color measuring sensors.



32. (Original) Computer-executable process steps according to Claim 27, wherein the calibrate-sensor function further provides the application program with a call-again value in a case that the calibrate-sensor function needs to be called multiple times so as to calibrate any of the color measuring sensors and has not yet been called the multiple times.

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33. (Original) Computer-executable process steps according to Claim 27, wherein the move-to-patch function causes the color measuring device to move the sensor so as to relatively position any of the color measuring sensors and the color patch.

34. (Original) Computer-executable process steps according to Claim 27, wherein the move-to-patch display value instructs the user to manipulate any of the color measuring devices so as to relatively position any of the color measuring sensors and the color patch.

35. (Original) Computer-executable process steps according to Claim 27, wherein the move-to-patch function causes any of the color measuring devices to manipulate any of the color measuring devices so as to relatively position any of the color measuring sensors and the color patch.

36. (Original) Computer-executable process steps according to Claim 27, wherein the move-to-patch display value instructs the user to manipulate any of the

color measuring devices so as to relatively position any of the color measuring sensors and the color patch.

37. (Original) Computer-executable process steps according to Claim 27, wherein the move-to-patch function further provides the application program with a recalibrate value in a case that the relative position of the recording medium needs to be recalibrated.

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38. (Original) Computer-executable process steps according to Claim 27, wherein the make-measurement function further provides the application program with a recalibrate value in a case that any of the color measuring sensors needs to be recalibrated.

39. (Original) Computer-executable process steps according to Claim 27, wherein functions in the API call device driver function for the different types of color measuring devices.

40. (Original) Computer-executable process steps according to Claim 27, wherein the computer-executable process steps are stored in a dynamically linkable library.

41. (Original) Computer-executable process steps according to Claim 27, wherein the plural different types of color measuring devices include XY tables and hand-held patch readers.

42. (Original) Computer-executable process steps according to Claim 27, wherein the plural different types of color measuring devices include spectrometers and densitometers.

43. (Original) Computer-executable process steps according to Claim 27, wherein the application program is a color calibration program.

44. (Currently Amended) A software dynamically linkable library (DLL) for making color measurements with any of plural different types of color measuring devices each having at least one color measuring sensor, the software DLL comprising plural functions each of which is for operating any of the plural different types of color measuring devices, the plural functions comprising:

a calibrate-position function to calibrate a relative position of a recording medium with respect to any of the plural different types of color measuring devices;

a calibrate-sensor function to calibrate any of the color measuring sensors of any of the plural different types of color measuring devices;

a move-to-patch function to relatively position any of the color measuring sensors and a color patch for any of the plural different types of color measuring devices, the move-to-patch function being provided with a logical color patch number; and

a make-measurement function to make a color measurement of the patch at which any of the color measuring sensors is relatively positioned, the make-measurement function providing a color measurement value for the color patch;

wherein in order to complete an operation performed by at least one of the plural functions, the function that performs the operation must be called a number of times which is different for at least two different types of color measuring devices, and wherein for a color measuring device that is being operated, the software DLL provides flow control data of the number of times that the function must be called.

45. (Currently Amended) A color calibration program, the color calibration program comprising computer-executable process steps to calibrate color fidelity of a color printer based on color measurements made by a color measuring device of color patches printed on a recording medium by the color printer, the computer-executable process steps comprising:

code to generate print data for the color patches;

code to send the print data to the color printer so as to print the color patches on the recording medium;

code to make color measurements of the color patches printed on the recording medium using any of plural different types of color measuring devices, the code to make color measurements calling functions provided by a software an application programming interface (API) that provides a common software interface to the plural different types of color measuring devices, the code to make color measurements using the common interface; and

code to calibrate the color fidelity of the color printer based on the color measurements.

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46. (Currently Amended) A computer-readable medium which stores computer-executable process steps, the computer-executable process steps to provide an application programming interface (API), the application programming interface providing a common software interface between an application program and a plurality plural ~~different types~~ of color measuring devices including a first color measuring device and a second color measuring device each having at least one color measuring sensor, wherein the first color measuring device and the second color measuring device are different types of color measuring devices, the computer-executable process steps comprising plural functions for operating any of the plurality plural ~~different types~~ of color measuring devices, wherein in order to complete an operation performed by at least one of the plural functions, the function that performs the operation must be called a number of times which is different for at least the two different types of color measuring devices, and wherein for a color measuring device that is being operated, the API provides the application program with flow control data of the number of times that the function must be called.

47 to 52. (Cancelled)

53. (Currently Amended) A computer readable medium storing computer-executable process steps, the computer-executable process steps to provide a software ~~an~~ application programming interface (API), the API providing a common

software interface between an application program and plural different types of color measuring devices each having at least one color measuring sensor, the computer-executable process steps comprising plural functions for operating any of the plural different types of color measuring devices, the plural functions comprising:

a calibrate-position function to calibrate a relative position of a recording medium with respect to any of the plural different types of color measuring devices;

a calibrate-sensor function to calibrate any of the color measuring sensors of any of the plural different types of color measuring devices;

B1 a move-to-patch function to relatively position any of the color measuring sensors and a color patch for any of the plural different types of color measuring devices, the move-to-patch function being provided with a logical color patch number by the application program; and

a make-measurement function to make a color measurement of the patch at which any of the color measuring sensors is relatively positioned, the make-measurement function providing the application program with a color measurement value for the color patch;

wherein in order to complete an operation performed by at least one of the plural functions, the function that performs the operation must be called a number of times which is different for at least two different types of color measuring devices, and wherein for a color measuring device that is being operated, the API provides the application program with flow control data of the number of times that the function must be called.

54 to 71. (Cancelled)

72. (Original) A computer-readable medium storing computer-

executable process steps, the computer-executable process steps to provide an application programming interface (API), the API providing a common interface between an application program and plural different types of color measuring devices each having at least one color measuring sensor, the computer-executable process steps comprising plural functions for operating any of the plural different types of color measuring devices, the plural functions comprising:

a calibrate-position function to calibrate a relative position of a recording medium with respect to any of the plural different types of color measuring devices, the calibrate-position function providing the application program with a position-calibration display value that is to be displayed so as to instruct a user to position the recording medium or to position any of the color measuring sensors;

a calibrate-sensor function to calibrate any of the color measuring sensors of any of the plural different types of color measuring devices, the calibrate-sensor function providing the application program with a sensor-calibration display value to the application program, the sensor-calibration display value to be displayed so as to instruct the user in calibrating any of the color measuring sensors;

a move-to-patch function to relatively position any of the color measuring sensors and a color patch for any of the plural different types of color measuring devices, the move-to-patch function being provided with a logical color patch number by the application program, providing the application program with a call-again value in a case that the move-to-patch function needs to be called multiple times to complete the relative positioning of the color measuring sensors and has not yet been called the multiple times,

and providing the application program with a move-to-patch display value that is to be

displayed so as to instruct the user in positioning any of the color measuring sensors; and

a make-measurement function to make a color measurement of the patch at which any of the color measuring sensors is relatively positioned, the make-measurement function providing the application program with a color measurement value for the color patch, providing the application program with a call-again value in a case that the make-measurement function needs to be called multiple times to complete making the color measurement of the color patch and has not yet been called the multiple times, and providing the application program with a measurement display value that is to be displayed so as to instruct the user in making the color measurement.

73. (Original) A computer-readable medium according to Claim 72, further comprising a get-device-capabilities function to provide the application program with a number of times that the calibrate-position function needs to be called so as to calibrate the relative position of the recording medium and to provide the application program with a number of times that the calibrate-sensor function needs to be called so as to calibrate any of the color measuring sensors.

74. (Original) A computer-readable medium according to Claim 72, wherein the calibrate-position function further provides the application program with a number of times that the calibrate-position function needs to be called so as to calibrate the relative position of the recording medium.



75. (Original) A computer-readable medium according to Claim 72, wherein the calibrate-position function further provides the application program with a call-again value in a case that the calibrate-position function needs to be called multiple times so as to calibrate the relative position of the recording medium and has not yet been called the multiple times.

76. (Original) A computer-readable medium according to Claim 72, wherein the calibrate-sensor function further provides the application program with a number of times that the calibrate-sensor function needs to be called so as to calibrate any of the color measuring sensors.

77. (Original) A computer-readable medium according to Claim 72, wherein the calibrate-sensor function further provides the application program with a call-again value in a case that the calibrate-sensor function needs to be called multiple times so as to calibrate any of the color measuring sensors and has not yet been called the multiple times.

78. (Original) A computer-readable medium according to Claim 72, wherein the move-to-patch function causes the color measuring device to move the sensor so as to relatively position any of the color measuring sensors and the color patch.

79. (Original) A computer-readable medium according to Claim 72, wherein the move-to-patch display value instructs the user to manipulate any of the color

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measuring devices so as to relatively position any of the color measuring sensors and the color patch.

80. (Original) A computer-readable medium according to Claim 72, wherein the move-to-patch function causes any of the color measuring devices to manipulate any of the color measuring devices so as to relatively position any of the color measuring sensors and the color patch.

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81. (Original) A computer-readable medium according to Claim 72, wherein the move-to-patch display value instructs the user to manipulate any of the color measuring devices so as to relatively position any of the color measuring sensors and the color patch.

82. (Original) A computer-readable medium according to Claim 72, wherein the move-to-patch function further provides the application program with a recalibrate value in a case that the relative position of the recording medium needs to be recalibrated.

83. (Original) A computer-readable medium according to Claim 72, wherein the make-measurement function further provides the application program with a recalibrate value in a case that any of the color measuring sensors needs to be recalibrated.

84. (Original) A computer-readable medium according to Claim 72, wherein functions in the API call device driver function for the different types of color measuring devices.

85. (Original) A computer-readable medium according to Claim 72, wherein the computer-executable process steps are stored in a dynamically linkable library.

86. (Original) A computer-readable medium according to Claim 72, wherein the plural different types of color measuring devices include XY tables and hand-held patch readers.

87. (Original) A computer-readable medium according to Claim 72, wherein the plural different types of color measuring devices include spectrometers and densitometers.

88. (Original) A computer-readable medium according to Claim 72, wherein the application program is a color calibration program.

89. (Currently Amended) A computer-readable medium storing a software dynamically linkable library (DLL), the software DLL for making color measurements with any of plural different types of color measuring devices each having at least one color measuring sensor, the software DLL comprising plural functions each of

which is for operating any of the plural different types of color measuring devices, the plural functions comprising:

a calibrate-position function to calibrate a relative position of a recording medium with respect to any of the plural different types of color measuring devices;

a calibrate-sensor function to calibrate any of the color measuring sensors of any of the plural different types of color measuring devices;

a move-to-patch function to relatively position any of the color measuring sensors and a color patch for any of the plural different types of color measuring devices, the move-to-patch function being provided with a logical color patch number; and

a make-measurement function to make a color measurement of the patch at which any of the color measuring sensors is relatively positioned, the make-measurement function providing a color measurement value for the color patch;

wherein in order to complete an operation performed by at least one of the plural functions, the function that performs the operation must be called a number of times which is different for at least two different types of color measuring devices, and wherein for a color measuring device that is being operated, the software DLL provides flow control data of the number of times that the function must be called.

90. (Currently Amended) A computer-readable medium storing a color calibration program, the color calibration program comprising computer-executable process steps to calibrate color fidelity of a color printer based on color measurements made by a color measuring device of color patches printed on a recording medium by the color printer, the computer-executable process steps comprising:

code to generate print data for the color patches;

code to send the print data to the color printer so as to print the color patches on the recording medium;

code to make color measurements of the color patches printed on the recording medium using any of plural different types of color measuring devices, the code to make color measurements calling functions provided by a software an application programming interface (API) that provides a common software interface to the plural different types of color measuring devices, the code to make color measurements using the common software interface; and

code to calibrate the color fidelity of the color printer based on the color measurements.

91. (Currently Amended) A computer-readable medium for storing computer-executable program code to provide a software an application programming interface (API), the software API providing a common software interface between an application program and a plurality plural different types of color measuring devices including a first color measuring device and a second color measuring device, wherein the first color measuring device and the second color measuring device are different types of color measuring devices, the computer-executable program code comprising plural functions for operating any of the plural different types of color measuring devices, wherein the plural functions include a function callable to perform an operation using any of the plural different types of color measuring devices, and wherein the behavior of the

function called to perform the operation is based on the type of color measuring device used to perform the operation.

92 to 96. (Cancelled)

97. (New) The computer-executable process steps of Claim 1 wherein the first color measuring device is a spectrophotometer and the second color measuring device is a colorimeter.